

REMARKS

Claims 19, 21-22, 24-25, 27-33, and 36-38 will be pending upon entry of the present amendment. Claims 31, 37, and 38 are being amended. Claims 34-35 and 39 are being cancelled.

Claims 25, 28, and 30 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,948,991 to Nomura et al. ("Nomura").

Nomura does not disclose the invention recited in claims 25, 28, and 30. In particular, claim 25 recites a device that includes a membrane having a concave surface facing an electronic circuit so as to leave a recess between the concave surface and the electronic circuit. Nomura simply does not disclose such a membrane with a concave surface that leaves a recess. Nomura does not show any concave surfaces and the only recess is the recess 103a that is below the sensor chip 130 and not between the sensor chip and any membrane.

The Examiner mistakenly asserted that an upper portion of the sensor ship 130 is the membrane with a concave surface that leaves a recess between the surface and the electronic circuit. First, the sensor chip 130 cannot possibly be both an electronic device and a membrane that forms a recess between the device and the membrane. There is no recess between the upper surface of the sensor chip 130 and the sensor chip itself. As noted above, the recess 130a is between a lower surface of the sensor chip 130 and the glass base 129 – not between an upper surface of the chip 130 and the chip itself. Second, the lower surface of the sensor chip 130 that defines the recess 130a is clearly flat and not concave in every one of the figures of Nomura.

Accordingly, claims 25, 28, and 30 are not anticipated by Nomura.

Claims 19, 21, 24, and 27 were rejected under 35 U.S.C. § 103 as being unpatentable over Nomura in view of U.S. Patent No. 5,897,338 to Kaldenberg.

Nomura and Kaldenberg do not teach or suggest the invention recited in claims 19, 21, 24, and 27. In particular, claim 19 recites a packaged electronic device that includes ring-shaped, elastic projection portion that projects from a surface of the device into a window to enable the device to be activated through the projection portion when the device is in use. Nomura and Kaldenberg do not teach or suggest such a ring-shaped projecting portion.

The Examiner admits that the resin 132 of Nomura is not a ring-shaped projecting portion, but mistakenly asserts that Kaldenberg teaches a ring-shaped projecting portion 22b. The ring 22b is not elastic and does not enable a device to be activated through the ring 22b when the device is in use. Instead, the ring 22b is a molding form that is positioned within a mold 18 into which plastic resin 24 is injected (Fig. 2). The ring 22b; along with the mold 18, a column 22a, and deformable material 23; is removed from the plastic package 24 to form an upper recess in the plastic package 24 (Fig. 3). A window 26 is placed in the recess before the device is used (Fig. 4). As such, the ring 22b is not structured to enable the device to be activated through the ring 22b when the device is in use.

Given that the ring 22b of Kaldenberg is merely a molding form that is removed before the device is used, there would be no motivation to replace or alter the resin 132 of Nomura in any way based on Kaldenberg. It's possible that the Kaldenberg molding ring 22b would be used to create the opening 3a of Nomura, but there is no reason provided by Nomura or Kaldenberg to employ the Kaldenberg molding ring 22b in any way other than as a molding ring that is removed before the device is completed and used. Moreover, there would be no motivation to use Nomura to change the Kaldenberg molding ring 22b to an elastic material that enables the device to be activated through the ring 22b when the device is in use because the resin 132 of Nomura is unrelated to molding or forming a recess in a plastic package, which is the function of the ring 22b.

For the foregoing reasons, claims 19, 21, and 24 are nonobvious in view of Nomura and Kaldenberg.

Although the language of claim 27 differs from that of claim 19, the allowability of claim 27 will be apparent in view of the above discussion.

Claims 22 and 29 were rejected under 35 U.S.C. § 103 as being obvious over Nomura in view of U.S. Patent No. 6,583,419 to Moy et al. ("Moy").

Moy is directed to a photosensitive detector that includes a photosensitive sensor 1 and a converter 2 designed to convert radiation to be detected into radiation to which the sensor 1 is sensitive. Between the sensor 1 and the converter 2 are an optical bond layer 3 and a chemical barrier layer 10 that optically and physically couple the sensor to the converter. The

sensor 1 includes photosensitive elements 5 and row/column conductors 6, 7 that connect the photosensitive elements 5 to sensing circuitry.

Nomura and Moy do not teach or suggest the invention recited in claims 22 and 29. Claim 22 recites that the device includes a dyke or barrier that surrounds an elastic projection portion and is formed on a surface of an electronic circuit. The Examiner admits that Nomura does not teach such a dyke or barrier, but asserts that the chemical barrier layer 10 of Moy provides the missing teaching. The applicants disagree because the addition of the barrier layer 10 of Moy to the pressure-sensitive device of Nomura would prevent operation of the Nomura device. Unlike the photosensitive device of Moy, Nomura is sensitive to pressure and would not work with the relatively thick chemical barrier 10 of Moy deposited on top of the resin 132 and pressure sensor chip 130. Accordingly, claim 22 is nonobvious in view of the cited prior art.

Although the language of claim 29 differs from that of claim 22, the allowability of claim 29 will be apparent in view of the above discussion.

Claims 31-34, 36, and 37 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,424,249 to Ishibashi in view of Nomura. Claims 35 and 39 were rejected under 35 U.S.C. § 103 as being unpatentable over Ishibashi, Nomura, and Moy.

Ishibashi, Nomura, and Moy do not teach or suggest the invention recited in claim 31, as amended. Claim 31 is being amended to include the elements of claim 35, which is being cancelled. In particular, amended claim 31 recites a device with a dyke or barrier surrounding an elastic projecting portion. The Examiner admitted that Ishibashi and Nomura do not teach or suggest such a dyke or barrier. As discussed above with respect to claim 22, the Moy chemical barrier layer 10 cannot be employed in the pressure-sensitive device of Nomura without preventing the operation of the Nomura device. Ishibashi is also directed to a pressure-sensitive device, and thus, also would not operate correctly with the chemical barrier layer 10 of Moy deposited thereon. Accordingly, claims 31-33 and 36 are nonobvious in view of the cited prior art.

Ishibashi and Nomura do not teach or suggest the invention recited in claim 37, which is being placed in independent form. Claim 37 recites a device that includes a membrane

positioned between an electronic circuit and an elastic protective layer and having a concave surface facing the circuit to leave a recess between the concave surface and the circuit. As discussed above with respect to claim 25, Nomura does not teach such a membrane with a concave surface. Ishibashi is substantially identical to Nomura and fails to teach or suggest such a membrane for the same reasons as those discussed above with respect to Nomura and claim 25. In particular, the only recess in Ishibashi is the recess 60 that is below the sensor chip 2 and not between the sensor chip 2 and any membrane. Like Nomura, the sensor chip 2 cannot possibly be both an electronic device and a membrane that forms a recess between the device and the membrane. There is no recess between the upper surface of the sensor chip 2 and the sensor chip itself. The recess 60 is between a lower surface of the sensor chip 2 and the glass base 1 – not between an upper surface of the chip 2 and the chip itself. Accordingly, claim 37 is nonobvious in view of Nomura and Ishibashi.

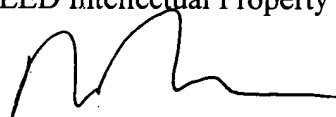
The applicant submits that all pending claims are allowable in view of the foregoing remarks. If there are any remaining issues to be resolved the applicant respectfully requests the Examiner to contact the applicant's attorney, Robert Iannucci, for a telephone interview.

The Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

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